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ABSTRACT

In accordance with a Ministerial Resolution of the Argentine Republic, a tertiary level teaching institute was authorized to offer a post-graduate course for teachers entitled, "Interpersonal Relationships at School." The possibilities of didactic games are examined as an expression of a formative continuous evaluation which stimulates spontaneity while it provides formal guidelines to evaluate the individual's potential expressed in games and the individual's learning achievement. Based on systems theory, this program analyzes the school; its component sub-structures; and its transactional levels, including institution-environment, different work groups, and individual-institution. The following of rules for the beginning, development, and evaluation of the applied circumstances differentiates the games from role-playing and standardized tests. The games are related with various sub-themes of the interpersonal relationships program theme. The specificity of pedagogical objectives facilitates the measurement of achievement. Observer's records are compared with the teacher-completed evaluation schedule. An application of the game (a leadership action theme) and its corresponding evaluation schedule are described. This method has effectively achieved its objectives: to verify the degree of internalization of the concepts developed during the game application. (Author/PN)

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DIDACTIC GAMES AS ASSESSMENT

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DIDACTIC GAMES AS ASSESSMENT

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1. PURPOSE

Estimate the possibility of utilizing didactic games to evaluate classroom or work situatione which include cognitive and non - cognitive variables of a learning process.

2. BACKGROUND DATA

2.1. The application of Games as a Techniche for Evaluation

In Buenos Aires, Argentine Republic, in the month of October, 1980, in accord with the Ministerial Resolution nº 24534/80, a tertiary lewel teaching Institute is authorized to offer a post-graduate course for teachers of the tertiary level.

The post-graduate board of that Institution came to our consulting offices to request a course about "The Interpersonal Relations at School". The formal requirements of the course host Institution were that the course must have the following characteristics: high academic level and novel methodological approach and evaluation procedures.

2.2. Course Planning

The planning of the requested course was developed according to a basic hypothesis.

2.2.1. Hypothesis

The games used with a didactic purpose give the evaluation of the process and the evaluation of the results of a pedagogical action, a formative character of a greater scope and in a shorter time than other evaluation techniques and procedures.

2.2.2. The Conceptual Framework

In order that the extension of educational opportunities be not only a lucid expression of wishes but a measurable effect of the factors that facilitate it, every effort contributing in this respect is considered valid.
The experience described in this paper is intended to be an example of this type, and it is aimed at testing the possibilities of didactic games as an expression of a formative continuous evaluation which stimulates spontaneity, while it provides formal guidelines to evaluate the individual's potencial expressed in games as well as to evaluate his learning achievement.
The programme, developed from a theoretical point of view, has its basis in the systems theory. The school is analyzed fromm this point view; its component sub-structures and its transactional levels are also analyzed considereing: institution-environment, different work groups, individual-institution.

Each Theoretical axis originates sub-themes which are analyzed in two levels: organizational level and didactic level. The former provides the context which mediates the external factors in their relation with the classroom events. In the classroom context the problem nuclei appearing in the theoretical axes are solved at a strictly didactic level of analysis.

2.2.3. Assessment

At the end of the theoretical treatment of each sub-theme the class group is centered in a specially selected game for each meeting.

For each game there is an Evaluation Cedule and an additional form for the recording of data. This game-cedule set constitutes the assessment procedure used in the experience.

3. DESCRIPTION OF THE EXPERIENCE

3.1. The Class-Group

The group which attended the course as students was composed of twenty persons, all female, whose ages varied between twenty-five and forty-five. All of them were teachers working at different educational levels. The authors of this paper were in charge of the coordination. They played two alternative roles: as coordinaters or as non-participant observers.

3.2. Principal Aspects of the Programme Developed

The table nº 1 summarizes the development of the course.

3.3. Structure of the Games

All the games used have the following characteristics.

1. The follow strict rules for the beginning, development and evaluation of what happens in the particular circumstances in which they are applied. This is a characteristic which differentiates them from role-playing and standardized tests.

2. The games are related with various sub-themes of the programme in the shape of a problem nucleus which promotes a series of activities, in which the degree of transfer from the theoretical to the empirical level becomes evident.

3. The high specificity of the pedagogical objectives facilitate the measurement of achievement. The objectives are not provided beforehand but they appear in the Evaluation Form in order to be knewn by the players later,

TABLE Nº 1 : Planning of a Post-graduate course: "Interpersonal relationships at school" Buenos Aires 1980

THEORETICAL AXES	LEVEL OF ANALYSIS	SUB-THEMES	ASSESSMENT		EVALUATION	
			DIDACTIC GAME	EVALUATION CEDULE	DIAGNOSIS	DECISION-MAKING
FUNCTIONAL	ORGANIZATIONAL	DIFFERENTIATION INTEGRATION	Get the maximum possible	(Data recording) Cedule 1		
STRUCTURE	DIDACTICAL	DIFFERENTIATION INTEGRATION	Construct an organization diagram	Cedule 2		
		MOTIVATION	Anna's story	Cedule 3		
COMMUNICATION	ORGANIZATIONAL	COMMUNICATION MODEL	Bidirectional Communication	Cedule 4		
STRUCTURE	DIDACTICAL	SOCIALIZED TEACHING	Learning in groups	Cedule 5		
LEADERSHIP	ORGANIZATIONAL	LEADERSHIP MODEL	Selection and analysis of proverbs	Cedule 6		
STRUCTURE	DIDACTICAL	LEADERSHIP ACTION	BABEL TOWER	Cedule 7		

se as to facilitate their self-evaluation.

4. During this experimental stage, the development of the game includes a well-trained observer's role so that the recording of his observations can be compared with the data of the Evaluation Cedule, filled in by the coordinating teacher.

5. The game provides enough elements to fill in the Evaluation Form ,which corresponds to that day's class meeting.

6. The games are composed of different materials.Their construction is simple and inexpensive so that the observations can be repeated with the purpose of collecting more data to make an analysis of the reliability of the technique.

3.4. Summary of the Development of one of the Sub-themes

The table nº 2 shows the sumary of a meeting aimed at considering the didactic problem "The Teacher: Leader of the School-class".

4. GAMES AS ASSESSMENT

The following is a description of the application of a game and its corresponding Evaluation Cedule (To save space only one game is described).

4.1. Game nº 1: The Tower of Babel

4.1.1. Connection with the theoretical theme

The application of the game was included in the theoretical axis called SUB-STRUCTURE OF AUTHORITY.

TABLE Nº 2 : Planning of a post-graduate course: "Interpersonal relationships at school"
Summary of the development of one of the classes Buenos Aires 1980

DIDACTICAL PROBLEM	THEORETICAL FRAMEWORK			ASSESMENT	DIAGNOSIS	
	ROLE	TEACHER'S ROLE			COORDINATOR A	COORDINATOR B
THE TEACHER - CLASS LEADER	ORGANIZATIONAL FACTOR	LEADERSHIP SUBSTRUCTURE		Game Nº 6 Game Objetive: - To understand the task leadership dynamics	He gives priority to his function	He gives priority to the results
				- To examine: the strategies and processes used to processes uses to achieve an objetive	He takes care of his own perfomance	He stimulates efficiency
	INTERACTION FACTOR	The School class as a system	Inter dependency	- The manner in which instructions are given to plan and anticipate results	He generates an efficient group but dependent	He promotes high levels of performance
			Morphogenesis	(There is a corresponding assessment cedule)	Low: He determines the group's performance	High: He stimulates competition he generates opposition
	PERSONAL FACTOR	Style of conduct	Primacy of a style or observable combinations		Authoritarian (Paternalist)	He is permisive by conviction And he is a cooperative Coordinator

- Level of analysis: didactic
- Sub-theme was fit into:

a) The theory of role-making by Ralph Turner(..)

b) The valorization of organization as a mediating resource between the individual and the evironment.

From a) and b) the specific didactic problem emerged:

INCIDENCE OF THE NATURE OF THE TEACHER'S LEADERSHIP IN THE PERFORMANCE OF THE INDIVIDUAL AND THE GROUP AT SCHOOL.

4.1.2. Objectives

4.1.2.1. Pedagogical Objective

Verify the degree of internalization of the concepts developed.

4.1.2.2. Game Objective

Understand the dynamics of task leadership; examine the strategies and processes utilized to achieve an objective, the way of giving instructions, planning foreseeing the results.

4.1.3. Application: The experience was carried out exactly as it was specified by the rules of the game.

4.1.3.1. Distribution of Roles. One observes:

- general acceptance of the coordination,
- resistance in assuming the leadership of the teams.

- interest in assuming the role of the worker,
- search for "a friend" to form the team,
- game anxiety, fear of "doing things in the wrong way".
- in relation to the teask of observation: ambivalence:..."we are the judges"... and ..." poor girl, she didn't realize" ... when the rules are broken openly.

4.1.3.2. Carrying out

The following types of leadership can be observed:

Leader A:
- Low level of initial aspiration (Try 1)
- She persists at the same level of aspiration (Try 2 and 3)
- She leads her workers using an abundance of instructions, spoken in a soft manner and with affection. She even pats the worker on the back to instill in her a sense of security. She keeps repeating..." be careful"... She ins afraid of failure.
- She does not seem to trust the performance of the group but she accepts its constraints in the achievement of the objective

- She becomes very severe in judging the behaviour of a member of a different group who has broken the rules of the game, even if no intention of taking advantage of the situation was evident.
- She raises her level of aspiration considerably at the end of the games. (Try 4).
- Her workers accept the way she acts at every moment.

Leader B:
- Modest level of initial aspiration. (Try 1)
- Raising of this level due to the good performance of the workers. (Try 2)
- She stimulates her workers , convincing them that they are able to reach the objective. (..." come on, you can de it"...), and praising their performance.
- She gives short instructions at intervals.
- She tries to defend a member of her team who breaks the rules and causes the suspension of the game. The other twe workers do not accept their fellow-worker's behaviour.

4.1.3.3. Interruption of the Game

It was produced as a consequence of breaking the rules, previously. The student observers try to justify:

- The rules breaker,
- Leader A, who severely sanctions the workers,
- Leader B, who tries to defend the workers, and
- The coordinater, who should have proposed that the game be interrupted.

4.1.3.4. Closure

It is very difficult for the group to fit the evaluation of the game into the basic theoretical axes.

This experience has activated internal contents of great resonance, and one observes a king of surprise on the part of the participants because of this fact. At this time, the workers have the chance of commenting on their own experience. In both cases they accept and appreciate their leader. The coordinator intervenes so as to obtain a more systematic evaluation.

This is summarized in Table nº 2

4.1.4. Inferences

The proposed game has acted effectively as an element of assessment of the degree of internatilization of the concepts developed during the class meeting. We may say that they have become incorporated as accepted information, as a theoretical model recognized as valid by the

group, but not transferred into action when the action occurs. Thus, for example:

Leader A: She assumes a paternalistic and authoritarian attitude, (surely that which she habitually assumes), despite the fact that a different one was considered better in the theoretical analysis.

Leader B: She assumes an attitude, highly appraised by consensus but she does not act accordingly.

There is no doubt that the application of this method of assessment renders information which cannot be obtained even with the most detailed techniques: in this case, we are considering the effective performance of leadership in order to analyze it later.

4.1.5. Evaluation Cedule (see Cedule 1)

The measurement of variables related to the course developed is based on Osgood's semantic differential on each scales of 7 points the criterion variables are measured utilizing a couple of opposing adjectives.

5. CONCLUSIONS

- This pilot experience has made possible the gathering of data which will be of great use in making future designs on the study and on the application of new evaluation techniques to other classroom and work situations.

EVALUATION CEDULE 1: BABEL TOWER

Dimentions of the Evaluation	Criterion Variable	WEIGHT
1.OBJETIVES		
1.1.Interpretation	Adequateness	Very inadequate — Very adequate 1 — 7
1.2.Valorization	Acceptance	Total Rejection — Total Acceptance 1 — 7
1.3.Efforts made towards achievement	Influence on the activity	Efforts not oriented — Efforts oriented 1 — 7
2.DISTRIBUTION OF ROLES		
2.1.Leaders 2.2.Workers 2.3.Observers	Acceptance of roles	Total Rejection — Total Acceptance 1 — 7
3.CARRYING OUT		
3.1.Exercise of leadership 3.1.1.Incentivation	Type and degree of incentivation	A.Extrinsic incentivation Low — High 1 — 7 B.Intrinsic incentivation Low — High 1 — 7
3.1.2.Requirements	Level	Low — High 1 — 7
	Stability	Very unstable — Very stable 1 — 7
3.2.Relevance of modality		
3.2.1.Authoritarian, autocratic	Level of efficiency (with respect to the worker's output)	Low — High 1 — 7
3.2.2.Authoritarian, paternalistic		Low — High 1 — 7
3.2.3.Permisive by conviction		Low — High 1 — 7
3.2.4.Permisive through inefficiency		Low — High 1 — 7
3.2.5.Democratic coordinator		Low — High 1 — 7
3.2.6.Democratic participant		Low — High

Dimentions of the Evaluation	Criterion Variable	WEIGHT
4. CLOUSURE (feedback)		
4.1. Self Evaluation	Objectivity	Subjetive criteria 1 — Objective criteria 7
4.2. Internalization of the theoretical framework	Transfer to the action	Low 1 — High 7

- The games made possible the manifestation of certain potentialities of the individuals which, in general are not made evident by the other techniques of assessment.

- The difficulty in the process of the transfer of knowledge is clearly manifested. The group itself and its individual members were familiar with the theoretical concepts but in most cases they were unable to apply them adequately in the situations which were presented by the games. This could be observed in the difficulties which they encountered in analyzing an emotive situation objectively, or when they added an emotional aspect to a situation, which was fundamentally one of "rational actions". If the non-cognitive learning factors impose themselves in such a way over the cognitive factors in those whe exercise the teacher's role (remember that the group was made up of teachers), it cannot be expected that they can adequately resolve the conflicts which originate at the different transactional levels in the institutions where they work.

- When the pedagogic diagnosis resulting from the data of evaluation of the cedule used, was made known to the students, they manifested their self-awareness of their own performance during the game.
  The step from self-awareness to self-evaluation is short and feasible.

- It is interesting to note that the group was reluctant to admit that they had been evaluated in this way, without the use of any written or oral tests whatsoever.

- The experience has shown us the necessity to continue working with other groups and other themes in order to obtain elements from the didactic games for the construction of instruments, which can serve to increase the educational value of evaluation and, naturally, to prove the hipothesis of our work.